

# SEQUENCE LISTING

<110> WOLFFE, Alan P.  
COLLINGWOOD, Trevor

<120> TARGETED MODIFICATION OF CHROMATIN STRUCTURE

<130> 8325-0014 / S14-US1

<140> 09/844,508

<141> 2001-04-27

<150> 60/200,590

<151> 2000-04-28

<150> 60/228,523

<151> 2000-08-28

<160> 49

<170> PatentIn Ver. 2.0

<210> 1

<211> 9

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Veg 1 target  
site 3' to 5'

<400> 1

cccctccta

9

<210> 2

<211> 9

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Veg 1 target  
site 5' to 3'

<400> 2

ggggaggat

9

<210> 3

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg 1 AA  
sequence F1

<400> 3

Thr Thr Ser Asn Leu Arg Arg  
1 5

<210> 4

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg 1 AA  
sequence F2

<400> 4

Arg Ser Ser Asn Leu Gln Arg  
1 5

<210> 5

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg 1 AA  
sequence F3

<400> 5

Arg Ser Asp His Leu Ser Arg  
1 5

<210> 6

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg 3a target  
site

<400> 6

gcggaggct

9

<210> 7

<211> 7

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Veg 3a AA  
sequence F1

<400> 7

Gln Ser Ser Asp Leu Gln Arg  
1 5

<210> 8

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg 3a AA  
sequence F2

<400> 8

Arg Ser Ser Asn Leu Gln Arg  
1 5

<210> 9

<211> 7

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Veg 3a AA  
sequence F3

<400> 9

Arg Ser Asp Glu Leu Ser Arg  
1 5

<210> 10

<211> 298

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg1  
nucleotide sequence

<400> 10

ggtaccata cctggcaaga agaagcagca catctgccac atccagggct gtggtaaagt 60  
ttacggcaca acctcaaatt tgcgtcgtca cctgcgctgg cacaccggcg agaggccttt 120  
catgtgtacc tggtcctact gtggtaaacg cttcaccctg tcgtcaaacc tgcagcgtca 180  
caagcgtacc cacaccggtg agaagaaatt tgcttgcccg gagtgtccga agcgcttcat 240  
gcgtagtgac cacctgtccc gtcacatcaa gaccaccag aataagaagg gtggatcc 298

<210> 11

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg1 amino acid sequence

<400> 11

Val Pro Ile Pro Gly Lys Lys Lys Gln His Ile Cys His Ile Gln Gly  
1 5 10 15

Cys Gly Lys Val Tyr Gly Thr Thr Ser Asn Leu Arg Arg His Leu Arg  
20 25 30

Trp His Thr Gly Glu Arg Pro Phe Met Cys Thr Trp Ser Tyr Cys Gly  
35 40 45

Lys Arg Phe Thr Arg Ser Ser Asn Leu Gln Arg His Lys Arg Thr His  
50 55 60

Thr Gly Glu Lys Lys Phe Ala Cys Pro Glu Cys Pro Lys Arg Phe Met  
65 70 75 80

Arg Ser Asp His Leu Ser Arg His Ile Lys Thr His Gln Asn Lys Lys  
85 90 95

Gly Gly Ser

<210> 12

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: duplex oligonucleotide binding target 5'-3'

<400> 12

catgcatagc ggggaggatc gccatcgat

29

<210> 13

<211> 14

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: NLS derived SV40 large T-antigen

<400> 13

Met Ala Pro Lys Lys Lys Arg Lys Val Gly Ile His Gly Val  
1 5 10

<210> 14

<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
double-stranded oligonucleotide encoding a FLAG  
epitope

<400> 14

Asp Tyr Lys Asp Asp Asp Lys  
1 5

<210> 15

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: target site  
for human VEGF-A

<400> 15

ggggaggatc gcggaggct

19

<210> 16

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: linker  
sequence

<400> 16

Asp Gly Gly Gly Ser  
1 5

<210> 17

<211> 298

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg3a  
nucleotide sequence

<400> 17

ggtaccata cctggcaaga agaagcagca catctgccac atccagggct gtggtaaagt 60  
ttacggccag tcctccgacc tgcagcgta cctgcgctgg cacaccggcg agaggccttt 120  
catgtgtacc tggctctact gtggtaaacg cttcaccgct tcgtcaaacc tacagaggca 180  
caagcgtaca cacaccgggt agaagaaatt tgcttgcccg gagtgtccga agcgcttcat 240

gcgaagtgac gagctgtcac gacatatcaa gacccaccag aacaagaagg gtggatcc 298

<210> 18

<211> 99

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg3a amino acid sequence

<400> 18

Val Pro Ile Pro Gly Lys Lys Lys Gln His Ile Cys His Ile Gln Gly  
1 5 10 15

Cys Gly Lys Val Tyr Gly Gln Ser Ser Asp Leu Gln Arg His Leu Arg  
20 25 30

Trp His Thr Gly Glu Arg Pro Phe Met Cys Thr Trp Ser Tyr Cys Gly  
35 40 45

Lys Arg Phe Thr Arg Ser Ser Asn Leu Gln Arg His Lys Arg Thr His  
50 55 60

Thr Gly Glu Lys Lys Phe Ala Cys Pro Glu Cys Pro Lys Arg Phe Met  
65 70 75 80

Arg Ser Asp Glu Leu Ser Arg His Ile Lys Thr His Gln Asn Lys Lys  
85 90 95

Gly Gly Ser

<210> 19

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg3a DNA target site

<400> 19

catgcatatc gcggaggctt ggcacgat 29

<210> 20

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer SPE7

<400> 20  
 gagcagaatt cggcaagaag aagcagcac 29

<210> 21  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: primer  
 SPEamp12

<400> 21  
 gtggtctaga cagctcgtca cttcgc 26

<210> 22  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: primer  
 SPEamp13

<400> 22  
 ggagccaagg ctgtggtaaa gtttacgg 28

<210> 23  
 <211> 26  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: primer  
 SPEamp11

<400> 23  
 ggagaagctt ggatcctcat tatccc 26

<210> 24  
 <211> 77  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: fragment  
 encoding DGGGS linker, 5' to 3'

<400> 24  
 ctagacacat caaaacccac cagaacaaga aagacggcgg tggcagcggc aaaaagaaac 60  
 agcacatatg tcacatc 77

<210> 25  
 <211> 77

<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: fragment  
encoding DGGGS linker, 3' to 5'

<400> 25

tgtgtagttt tgggtggtct tgttctttct gccgccaccg tcgccgtttt tctttgtcgt 60  
gtatacagt taggttc 77

<210> 26

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer GB19

<400> 26

gccatgccgg tacccatacc tggcaagaag aagcagcac 39

<210> 27

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: primer GB10

<400> 27

cagatcggat ccacccttct tattctggtg ggt 33

<210> 28

<211> 589

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Veg3a/1  
nucleotide sequence

<400> 28

ggtaccata cctggcaaga agaagcagca catctgccac atccagggct gtggtaaagt 60  
ttacggccag tcctccgacc tgcagcgta cctgcgctgg cacaccggcg agaggccttt 120  
catgtgtacc tggtcctact gtggtaaagc cttcacacgt tcgtcaaacc tacagaggca 180  
caagcgtaca cacacaggtg agaagaaatt tgcttgcccg gagtgtccga agcgcttcat 240  
gcgaagtga gagctgtcta gacacatcaa aacccaccag aacaagaaag acggcggttg 300  
cagcggcaaa aagaaacagc acatatgtca catccaaggc tgtggtaaag ttacggcac 360  
aacctcaaat ctgcgtcgtc acctgcgctg gcacaccggc gagaggcctt tcatgtgtac 420  
ctggtcctac tgtggtaaag gcttcacccg ttcgtcaaac ctgcagcgtc acaagcgtac 480  
ccacaccggg gagaagaaat ttgcttgccc ggagtgtccg aagcgcttca tgcgtagtga 540  
ccacctgtcc cgtcacatca agaccacca gaataagaag ggtggatcc 589



*(continued)*

[illegible]

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<220>  
 <223> Description of Artificial Sequence: Veg3a/1  
 target site 1

<400> 30  
 agcgagcggg gaggatcgcg gaggcttggg gcagccgggt ag 42

<210> 31  
 <211> 42  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Veg3a/1  
 target site 2

<400> 31  
 tcgcccctcc tagcgctcc gaaccccgtc ggcccatctc gc 42

<210> 32  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: VEGF forward  
 primer

<400> 32  
 ctggtagcgg ggaggatcg 19

<210> 33  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: VEGF reverse  
 primer

<400> 33  
 gccacgacct ccgagctac 19

<210> 34  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: VEGF probe

<400> 34  
 ctaccgggt gccccaagcc tc 22

<210> 35  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: GAPDH forward primer  
  
 <400> 35  
 ccttttgcag accacagtcc a 21  
  
 <210> 36  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: GAPDH reverse primer  
  
 <400> 36  
 gcagggatga tgttctggag a 21  
  
 <210> 37  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: GAPDH probe  
  
 <400> 37  
 cactgccacc cagaagactg tgg 23  
  
 <210> 38  
 <211> 32  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: ISWI primer 1  
  
 <400> 38  
 cgatcggatc ctccaaaaca gatacagctg cc 32  
  
 <210> 39  
 <211> 77  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: ISWI primer 2

<400> 39  
gatgcctct agactcgaga agcttacttg tcacgtcgt ccttgtagtc gctgcccttc 60  
ttcttctttt tcgagtt 77

<210> 40  
<211> 10  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Epo2c target  
site

<400> 40  
ggtgaggagt 10

<210> 41  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Epo2c  
recognition helix F1

<400> 41  
Arg Ser Asp Asn Ala Leu Arg  
1 5

<210> 42  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Epo2c  
recognition helix F2

<400> 42  
Arg Ser Asp Asn Leu Ala Arg  
1 5

<210> 43  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Epo2c  
recognition helix F3

<400> 43

Asp Ser Ser Lys Leu Ser Arg  
1 5

<210> 44  
<211> 10  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Epo3b target  
site

<400> 44  
gcggtggctc

10

<210> 45  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Epo3b  
recognition helix F1

<400> 45  
Gln Ser Ser Asp Leu Thr Arg  
1 5

<210> 46  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Epo3b  
recognition helix F2

<400> 46  
Arg Ser Asp Ala Leu Ser Arg  
1 5

<210> 47  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Epo3b  
recognition helix F3

<400> 47

Arg Ser Asp Glu Arg Lys Arg  
1 5

<210> 48

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SRC1 primer 1

<400> 48

ggatccggcc accgcggccg catggatcca tgtaatacaa acccaacc 48

<210> 49

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: SRC1 primer 2

<400> 49

atgaattcgc ggccgccctg ggttccatct gcttctgttt tgag 44